



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,510	02/27/2002	Toru Nakayama	00862.022531.	6494
5514	7590	11/02/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			QIN, YIXING	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	

2622

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/083,510

Applicant(s)

NAKAYAMA ET AL.

Examiner

Yixing Qin

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/27/02, 5/13/02, 11/12/03, 03/17/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The claimed invention is directed to non-statutory subject matter. Claim 19 is non-statutory. Appropriate correction is needed.

A) The following claim format is unacceptable and subject to a 101 rejection:

"A computer program product for performing the steps of ..."

Such a claim is non-statutory because the terminology "computer program product" alone has no set definition.

(B) The following claim formats are acceptable and not subject to a 101 rejection:

"A computer program embodied in a computer readable medium for performing the steps of ..."

"A computer readable medium storing a program for performing the steps of..."

A statutory product with descriptive material must include a positive recitation of the computer readable medium -- MPEP 2106, case law, USPTO policy, all are founded on this.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2622

I. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuta et al (U.S. Patent No. 5,927,874 – “Kikuta”) view of Hori (U.S. Patent No. 5,816,714) and further in view of Oda (U.S. Patent No. 5,838,888).

**1. Claims 1, 12, 19 and 20**

- Kikuta discloses in column 1, lines 66-67 and column 2, lines 1-2 “...a plurality of memory means for storing print data to be used for printing on a printing medium, in correspondence with the printing elements divided into a plurality of element groups.” Column 9, lines 31-33 gives an example of 8-nozzle groups.
- Kikuta discloses in Fig. 11 a reception buffer 1102. However, it does not explicitly disclose that the data received is in a raster form. The secondary reference, Hori, discloses in column 4, lines 51-53 that the data used in the buffer memory is raster data
- Kikuta discloses in Fig. 12B and column 11, lines 24-28 a structure comprising of a plurality of print buffers. Essentially, each print buffer in the Kikuta reference is the individual **areas of the print buffer** as being claimed. The many print buffers in the Kituka reference basically functions as the **print buffer** as being claimed.
- Kikuta discloses in Fig. 11 and column 9, lines 64-67 and column 10 lines 1-30 a description of the functional control of Kituka's invention. Note in column 9 line 66 the reception buffer and column 10 lines 13-26 of how data is sent to the dot pattern memory 1108. Column 9, line 27 says this dot pattern memory 108 is a can be divided in to many print buffers (i.e. the data in the print buffer corresponds to the data in the reception buffer).
- Neither Kituka nor Hori goes into detail about the shifting of the data. However, the tertiary reference, Oda, discloses in column 4, lines 46-52 and column 5, lines 10-26 the shifting of print data in the print buffer. Note especially column 5, lines 21-26.
- All three references are in the art of printing through the use of print buffers to store print information for various printheads for higher speed printing. Therefore, it would have been obvious for one of ordinary skill to include a reception buffer that contains raster data to supply the data to a print buffer and have the capability to shift the data. The motivation would be to increase printing performance by allowing more efficient use of storage and faster processing.

**2. Claims 2 and 13**

- One can see in Fig. 4 and column 5, lines 48-55 Kituka that one print buffer contains information used for printing in one scan.

**3. Claims 3 and 14**

Art Unit: 2622

- Kikuta discloses in column 5, lines 32-45 and Fig. 3 the idea of a management table 203 that stores information about print buffers, and gets updated when print buffers obtain data or are cleared.
- 4. Claims 4 and 15**
  - Kikuta discloses in column 5, line 45 that their embodiment uses 150 print buffers and further goes to explain in column 5, lines 56-63 that their management system has enough buffers for two scanings. This means the number of print buffers is at least twice the number of blocks.
- 5. Claims 5 and 16**
  - Kikuta discloses in column 5, lines 41-45 that the print buffer management table has flags for indicating print buffer usage.
- 6. Claims 6 and 17**
  - One can see in Fig. 4 of Kikuta areas 1-N, and they are used in a predetermined order – see column 6, lines 13-24.
- 7. Claim 7**
  - Kikuta discloses in Fig. 7 a printhead with different colors.
- 8. Claim 8**
  - Kikuta discloses in Fig. 9 a plurality of print buffers for each printhead color.
- 9. Claims 9 and 18**
  - Kikuta discloses in Fig. 5 and column 6, lines 35-39 the idea of moving the medium by a determined width in order to print properly.
- 10. Claim 10**
  - Kikuta discloses in Fig. 1 an ink-jet printer.
- 11. Claim 11**
  - Kikuta discloses in column 9, lines 38-42 “[a]n electrothermal transducer for generating thermal energy is provided at each ink channels corresponding to the respective nozzles, and electrode wiring for supplying electricity to the electrothermal transducer is also provided there.”

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yixing Qin whose telephone number is (571)272-7381.


The examiner can normally be reached on M-F 9:30-6:00.

Art Unit: 2622

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on (571)272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YQ

  
EDWARD COLES  
SUPERVISORY PATENT EXAMINER  
EBC CENTER 2600